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BY E-MAIL AND FEDEX

Mr. Ted Linnert
Office of Communications & Public Involvement
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Re: Libby Asbestos Superfund Site: Proposed Plans for Public Comment dated September 2009 for OU-1 – Former Export Plant and OU-2 Former Screening Plant (the **"Plans"**); "Final Remedial Investigation Report, Operable Unit 1 – Former Export Plant Site," dated August 3, 2009 (the **"OU-1 RI"**) and the "Final Remedial Investigation Report, Operable Unit 2 – Former Screening Plant and Surrounding Properties," dated August 24, 2009 (the **"OU-2 RI"**; collectively, the **"RIs"**)

Dear Mr. Linnert:

We represent two groups with respect to the Libby Asbestos Superfund Site (the **"Site"**): Citizens for a Healthy Community and Environmental Justice, and the Libby Business and Homeowners Association (together, the **"Groups"**). Citizens for a Healthy Community and Environmental Justice is a recently formed citizens group comprised of over 200 members who are residents of the City of Libby. The Libby Business and Homeowners Association is an organization of both businesses and residents. Members of the Groups have been directly impacted by the asbestos contamination in Libby, and are eager to participate in the public comment process.

The Groups have significant concerns regarding EPA's procedures and proposals for Operable Unit 1 (**"OU-1"**) and Operable Unit 2 (**"OU-2"**). As an overview, there is no valid risk assessment to support the Plans, making the Plans arbitrary and indefensible. Without appropriate toxicology, epidemiology, and exposure data, EPA and the public have no means to determine whether the preferred alternative is appropriate. As a result, the Plans must be rejected as premature and contrary to the National Contingency Plan, 40 CFR Part 300 (the **"NCP"**).

On behalf of the Groups, we submit the specific comments below to the Plans. As additional information becomes available, the Groups may have additional comments, and the Groups reserve their rights to comment further or object to the Plans.

I. **EPA has not yet established scientifically defensible toxicity information for Libby asbestos. Until appropriate data are developed, the Site should not proceed past Baseline Risk Assessments ("BLRAs") and Remedial Investigations/Feasibility Studies ("RI/FS") or Plans to a Record of Decision ("ROD") for any OU.**

There are a number of issues with the RIs "Baseline Risk Assessment" sections.

A. Final decisions are not appropriate until scientifically valid information is available to quantify non-cancer risks. The OU-1 RI expressly states that there is no reference concentration ("**RfC**") for non-cancer risk for inhalation exposure to Libby Asbestos ("**LA**"). The OU-1 RI states that "[t]hese findings emphasize that, despite the inability to provide a quantitative HQ calculation at present, occurrence of non-cancer effects are a significant human health concern in the community." Under the NCP, findings of such high risk with no quantitative assessment can only serve as justification for an emergency response or removal action at the Site, and is not appropriate for a final decision document.

The OU-2 RI does not include a similar statement; it fails to make any attempt at quantitatively addressing risk at OU-2.

EPA has already been criticized for moving ahead without conducting a toxicology or epidemiology study.[1] In the report, the OIG stated, "*EPA cannot be sure that the ongoing Libby cleanup is sufficient to prevent humans from contracting asbestos-related diseases.*"[2] In its response, EPA appeared to agree that more review was needed, stating that a toxicological review for non-cancer effects of asbestos was underway, and that EPA was "committed to conducting a comprehensive toxicity assessment of the Libby amphibole."[3]

Although the RIs acknowledge that non-cancer effects are a significant concern, they contain no further analysis of non-cancer risks. Three years ago, the OIG identified that the EPA has no toxicological or epidemiological studies to demonstrate that a cleanup is protective, but nothing has changed. The lack of defensible scientific support is contrary to law. Indeed, to be consistent with the NCP, a remedy selected during

[1] "EPA Needs to Plan and Complete a Toxicity Assessment for the Libby Asbestos Cleanup," EPA Office of the Inspector General ("**OIG**") Report No. 2007-P-00002, dated December 5, 2006.

[2] *Id.* at p. 2 (emphasis added).

[3] "Response to OIG Report No. 2007-P-00002 'EPA Needs to Plan and Complete a Toxicity Assessment for the Libby Asbestos Cleanup,'" prepared by the Office of Solid Waste and Emergency Response, undated.

the remedial action process must be protective of human health and the environment. 40 CFR §300.430(a)(i). One of the "threshold criteria" for selection of a remedy is overall protection of human health and the environment. *Id.* at §300.430(f)(1)(i)(A). EPA cannot state that the selected remedy is protective of human health or the environment, and therefore the Plans are not in compliance with applicable regulations.

EPA cannot make final decisions for OU-1 and OU-2 while doing nothing to address the non-cancer risks.

B. EPA must re-evaluate the Site when appropriate scientific information is available for estimating cancer risks. Appropriate toxicology (potency and mechanisms) and epidemiology information has not been developed for cancer risk estimates. Specifically, EPA relies on the "Framework for Investigating Asbestos-Contaminated Superfund Sites," OSWER Directive #9200.0-68, dated September 2008, which in turn relies on IRIS cancer Unit-Risk estimates that are inadequate for multiple reasons. The aging IRIS toxicity data for asbestos was derived from mostly occupational exposures, using analytical methods with inappropriately high detection limits. Additionally, the OU-1 RI states that the risks from amphibole asbestos are higher than chrysotile asbestos, but surprisingly goes on to state that the toxicology data used by EPA includes both chrysotile and amphibole data. Because studies have shown that amphibole asbestos is more toxic than chrysotile asbestos, the combined toxicology data is not appropriate for assessing the cancer risks at Libby. EPA's IRIS toxicity document, at Section II.3.c., warns risk assessors not to use any of the IRIS cancer Unit-Risk estimates if air concentrations exceed 0.04 f/ml because the cancer slope factor may likely differ above this concentration. Many samples at Libby exceeded this concentration, invalidating the data for use in risk assessment and for any EPA risk management decisions based on that risk estimate. EPA's reliance on the IRIS information is inappropriate and indefensible.

Unlike the OU-1 RI, the OU-2 RI does not even make any effort to quantify risks at OU-2. Rather, EPA makes only qualitative statements regarding risk at OU-2. These qualitative statements do not meet the threshold criteria of protection of human health and the environment required by the NCP, and cannot support final remedial cleanup decisions.

In summary, EPA does not yet have scientifically supportable toxicology and epidemiology data, and EPA should not proceed with plans for final remedial decisions on OU-1 and OU-2 until site-specific data are available and made part of the analysis. EPA should instead work towards gathering appropriate toxicology and epidemiology data to establish valid reference doses, reference concentrations and cancer slope factors for LA asbestos. EPA's studies should incorporate actual clinical data from the Libby community to establish more

accurate, site-specific toxicity levels. Only then can appropriate cleanup levels be established.

II. **Exposure levels in Libby are still unknown.** In addition to EPA's lack of appropriate toxicology and epidemiology data, EPA has not properly established actual exposures to the residents of Libby.

A. Cumulative risk must be considered before any ROD is finalized. The Feasibility Studies noted that cumulative risks will be addressed in the future. OU-1 Feasibility Study at §2.7.1.1; OU-2 Feasibility Study at §2.7.1.1. It is well known that residents and workers in Libby are exposed to asbestos through multiple sources. Therefore, consideration of cumulative risk is essential for a realistic characterization of the impact to people in Libby. Any remediation conducted before cumulative risk is fully assessed should be considered only an emergency or removal action, not a final remedial action.

B. Analytical methods used by EPA are not sensitive enough to measure LA present at concentrations at or near an acceptable risk level. Current EPA analytical methods are inadequate for measuring the low concentrations of LA that may be a risk to human health and the environment. EPA's Data Quality Objectives require that method quantitation limits ("**MQLs**") be sufficiently lower than risk based concentrations (or Remedial Action Objectives in the Plans). Although we recognize that a reliable method with acceptably low MQLs is not currently available, we know that it is routine for EPA to develop appropriate analytical methods to address data needs. EPA cannot support final remedial decisions until it has adequate analytical methods to ensure that human health and the environment are protected.

C. The value of Polarized Light Microscopy ("**PLM**") analysis for determining actual exposures is severely limited, but EPA uses PLM to establish cleanup goals for OU-2. While the RI for OU-2 does not expressly establish a cleanup goal, EPA uses PLM analytical results to determine where final cleanup is warranted. PLM is unworkable as an analytical method for a multitude of reasons, including but not limited to: (i) concentrations below 1% are not quantified; (ii) fibers finer than the resolving power of the microscope (ca. 0.3 µm) will not be detected;[4] and (iii) soil concentrations measured by PLM do not correlate well with airborne asbestos concentrations. For these reasons, PLM results are not representative of human exposures to asbestos at OU-2 or any other portion of the Site. PLM is an out-dated method that was developed for worker protection from mostly chrysotile asbestos, and is not adequate for

[4] Asbestos (bulk) by PLM 9002, NIOSH, available at http://www.cdc.gov/niosh/docs/2003-154/pdfs/9002.pdf.

lower levels of quantitation needed to protect public health and the environment for Libby Asbestos.

Despite the unreliable nature of PLM results, EPA has used PLM results to determine what soils require further response at OU-2. Because PLM results are used, EPA has, in effect, set the PLM detection limit as a cleanup goal for OU-2. In a 2003 memo, EPA stated that a cleanup goal of 1% asbestos is not appropriate for final cleanup: "It is important to note that EPA does not assert that soil concentration[s] of less than 1% LA are necessarily safe or acceptable."[5] In fact, the 2003 Memo states clearly that exposure to soils with 1% asbestos led to a risk level of 1 in 1000, "*well above the risk level of 1 in 10,000 that EPA usually considers to be the upper limit of acceptable risk.*"[6] In short, PLM is not a proper analytical method here.

D. Any soil analytical method must be confirmed with Activity Based Sampling ("**ABS**"). As noted above in Section II.C, EPA has indicated that airborne asbestos concentrations do not correlate well with soil asbestos concentrations. To establish representative exposure levels, ABS should be conducted at all OUs. At OU-1, only eight ABS samples were collected, and those samples were not collected under conditions that would be representative of normal uses of the Site (ABS samples were collected during mowing, but the soil was wetted before mowing). The OU-2 does not present any representative ABS sampling for soils remaining at the Site. EPA should collect appropriate numbers of ABS samples to assess actual exposures, and EPA should use an analytical method that is adequate to detect concentrations at or near an appropriate cleanup level.

E. Once representative sample results are available, EPA should use appropriate exposure calculations. While the RI for OU-2 made no effort to calculate risk levels, the risk calculations for OU-1 used inappropriate methods and assumptions in estimating exposures. For example:

   i. The OU-1 RI states that methods for developing an appropriate exposure point 95% UCL concentration are still under development. Instead, the OU-1 RI uses the sample mean and the maximum concentration in risk calculations. We recognize that EPA's calculations that use the maximum detected concentration demonstrate a risk level above EPA's acceptable risk range, which triggered a removal action. Calculations with

[5] "Libby Asbestos Site, Residential/Commercial Cleanup Action Level and Clearance Criteria, Technical Memorandum, Draft Final," dated December 15, 2003, at p. 10 (the "**2003 Memo**").

[6] *Id.* at p. 9 (emphasis added).

such uncertainty may be acceptable for developing an emergency response and for rough screening purposes, but they are not acceptable for use in an RI or a ROD. EPA has not established a defensible risk level at Libby, and EPA's invalid use of these calculations in the OU-1 RI is inaccurate and misleading.

ii. The OU-1 RI also uses several arbitrary assumptions for reasonable maximum exposures. For example, the reasonable maximum active exposure in a city park is limited to one hour, fifty days per year. Because OU-1 may become a city park, residents could be exposed during recurring scheduled activities like team sports. The risk evaluation may significantly underestimate the actual risk at OU-1. Future scenarios, such as re-exposures from potential erosion from floods or from possible excavations by workers with environmental releases, are overlooked.

Errors such as these show that the OU-1 RI conclusions are flawed and arbitrary. EPA should not proceed with decisions without a valid risk assessment, particularly where, as here, multiple instances of asbestos related deaths and disease are known. Nor does the preference for in-place containment across the Site excuse the use of flawed and arbitrary information. First, analysis using appropriate information could result in a conclusion that the risk is too great to merely contain the asbestos in place, thus altering the outcome. Second, EPA should not set a precedent of using flawed and arbitrary methods to develop remedial action plans. Information applied to OU-1 could be used in other OUs, leading to incorrect conclusions that a less protective remedy, or no action at all, is appropriate, despite EPA's knowledge that the assumptions are not based on any valid risk assessment.

III. **EPA did not attempt to establish a cleanup goal for either OU-1 or OU-2.** The Plans rely on unsupported, qualitative statements to determine the level of cleanup that will be conducted. This is improper. Instead, once EPA has obtained the necessary data to establish risk levels, EPA should develop a specific, quantifiable cleanup goal or remedial action objective for the Site.

IV. **EPA has erred in establishing the scope of the response.**

A. EPA's response should be based on asbestos concentrations, not historical property boundaries. The extent of OU-1 and OU-2 were established based on areas of former operations rather than data. EPA must ensure that the scope of the cleanup encompasses all areas with asbestos concentrations above a scientifically-defensible cleanup level. Any other result is arbitrary.

B. Consideration of cumulative risk is essential. As discussed above in Section II.A, the residents of Libby are exposed to asbestos in multiple

ways, and consideration of cumulative risk is essential to a defensible risk assessment. Any other result is arbitrary.

C. Ecological risks and risks to endangered species must be evaluated before work is conducted adjacent to the Kootenai River or Rainy Creek. The Feasibility Studies for OU-1 and OU-2 indicate that ecological risks will be addressed in the future. Feasibility Study for OU-1, §2.7.2, and Feasibility Study for OU-2, §2.7.2. However, the remedial actions proposed in the Plans will be conducted adjacent to the Kootenai River as well as Rainy Creek, with potential direct impacts to surface water and endangered species including the bull trout and white sturgeon. EPA should not conduct a remedial action in such close proximity to ecological resources without having assessed the potential impacts. Additionally, EPA should also consider the ecological resources in the design of the remedial action. EPA should work closely with the United States Fish and Wildlife Survey ("**USFWS**") and other appropriate resource agencies to ensure that arbitrary decisions about natural resources are not made, and that threatened and endangered species and other wildlife is adequately protected during and after any remedial action.

V. **EPA cannot justify its selection of preferred alternatives**

A. Selection of preferred alternatives is premature. The Feasibility Studies include various proposed alternatives, and the Plans select preferred alternatives. However, as discussed above, the risk and exposures have not been determined with sufficient certainty. As a consequence, any decision on a preferred alternative at either OU-1 or OU-2 is arbitrary because "protection of public health and the environment" is one of the threshold criteria that the NCP requires EPA to meet.

B. Relocation must be considered as an alternative. The Feasibility Studies should have considered relocation as an alternative. As discussed above, actual risk and exposures at Libby have not been determined. It may not be feasible to adequately protect human health in some or all parts of the Site. CERCLA grants explicit authority to conduct permanent relocations if relocation is necessary to protect the public health. Any Feasibility Study for the Site should include an analysis of whether relocation may be appropriate or necessary.

VI. **Although the Plans provide some information on the Preferred Remedial Action, EPA should issue a detailed work plan for public comment (when enough risk-based data are available).** The RIs and preferred alternatives do not provide enough detail regarding the remedial plans for meaningful public comments. Specifically:

A. Evaluation of potential for re-contamination. EPA must consider the potential for OU-1, OU-2, or any other previously addressed area to become re-contaminated by other cleanup efforts. For example, EPA will

be conducting cleanup work at OU-2; however, the mine site has yet to be fully evaluated and addressed. The Plan does not provide any information regarding how EPA will prevent contamination of the previously cleaned areas when OU-3 is being addressed, or while contaminated soil is being managed at the mine or nearby holding area. Potential routes of re-contamination include uncontrolled releases from asbestos containing debris or soil as it is transported, asbestos spread by improper contractor decontamination methods, and contaminated water runoff along the surface or in the creek or river. EPA must take adequate precautions to prevent recontamination, and must collect appropriate confirmation samples to confirm that the previously addressed areas have not become re-contaminated.

B. Shoreline and surface water impacts. EPA must also monitor the shoreline at OU-1 and OU-2 for potential impacts to endangered species or other wildlife (as well as for recreational human receptors). The USFWS and other appropriate authorities should review measures proposed to protect these resources. EPA must include precautions that prevent contaminated surface runoff from entering the river and creek, and must include plans for responding during flooding events or other emergencies.

C. Analysis of incoming fill. As discussed above in Section II.C, PLM is not appropriate for determining whether soil material is not contaminated with asbestos. EPA's remediation work plan should include TEM analysis of all incoming fill to confirm the absence of amphibole asbestos concentrations above appropriately calculated risk-based levels.

D. Consultant/contractor oversight. EPA must present its plans for carefully providing oversight to its contractors. EPA's plan should include frequent and unannounced inspections, as well as other monitoring mechanisms to identify quickly any breaches of protocol by EPA's contractors. Qualified, experienced contractors should review all removal and remedial actions, particularly because handling LA may require increased health and safety precautions compared to methods used in handling chrysotile asbestos.

E. Confirmation monitoring. Once any preferred alternative is completed, EPA must conduct confirmation air monitoring and ABS for a sufficient period, over each season and in different conditions, to establish that the exposures are adequately controlled.

F. Ongoing maintenance of containment. The preferred alternatives for both OU-1 and OU-2 include some in-place containment of contaminated soil, as well as controls to prevent exposure to certain portions of OU-2. For both OU-1 and OU-2, ongoing maintenance will be required, but the Plans do not indicate what entity is responsible on an ongoing basis, how the maintenance would be performed, or the funding mechanism for the

ongoing work. Presumably EPA will fund and manage ongoing maintenance and containment, but that is not clear. Additional information regarding the ongoing maintenance should be presented for public review and comment.

VII. Public availability of information. Finally, we note that the OU-1 RI, OU-1 Feasibility Study, OU-2 RI, OU-2 Feasibility Study, and other final documents have not been posted on EPA's website for Libby. EPA's failure to make these documents available in a readily accessible form severely hinders the public's ability to comment on the Plans.

In summary, EPA's current Feasibility Studies and RI's are premature, and it would be arbitrary to issue RODs based on these flawed documents. EPA should not make final decisions until appropriate risk-based information is available.

We look forward to EPA's response on each of the above comments.

Best regards,

Elizabeth E. Mack

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